

PRELIMINARY AMENDMENT  
U.S. Application No.: Not Yet Assigned

**AMENDMENTS TO THE CLAIMS:**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (original): A low core loss magnetic alloy with a high saturation magnetic flux density, which has a composition represented by the general formula:



where M' represents at least one element selected from V, Ti, Zr, Nb, Mo, Hf, Ta, and W,

X' represents Si and B, an Si content (atomic %) is smaller than a B content (atomic %), the B content is from 4 to 12 atomic %, and the Si content is from 0.01 to 5 atomic %,

a, y, and c satisfy respectively  $0.2 < a < 0.6$ ,  $6.5 \leq y \leq 15$ ,  $2 \leq c \leq 15$ , and  $7 \leq (y + c) \leq 20$ ,

at least a part of an alloy structure being occupied by crystal grains having grain size of not larger than 50 nm,

a saturation magnetic flux density  $B_s$  being not less than 1.65T, and

a core loss  $P_{cm}$  per unit volume in conditions at 80°C,  $f = 20$  kHz, and  $B_m = 0.2$ T being not more than 15 W/kg.

2. (original): A low core loss magnetic alloy with a high saturation magnetic flux density, which has a composition represented by the general formula:



where not more than 5 atomic % in total of Fe and Co are substituted by at least one element selected from Cu and Au,

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M' represents at least one element selected from V, Ti, Zr, Nb, Mo, Hf, Ta, and W,  
X' represents Si and B, an Si content (atomic %) is smaller than B content (atomic %),  
the B content is from 4 to 12 atomic %, and the Si content is from 0.01 to 5 atomic %,   
a, y, and c satisfy respectively  $0.2 < a < 0.6$ ,  $6.5 \leq y \leq 15$ ,  $2 \leq c \leq 15$ , and  $7 \leq (y + c) \leq 20$ ,  
at least a part of alloy structure being occupied by crystal grains having grain size of not  
larger than 50 nm,  
a saturation magnetic flux density  $B_s$  being not less than 1.65T, and  
a core loss  $P_{cm}$  per unit volume in conditions at 80°C,  $f = 20$  kHz, and  $B_m = 0.2$ T being  
not more than 15 W/kg.

3. (currently amended): A low core loss magnetic alloy with a high saturation magnetic  
flux density as set forth in claim 1-~~or~~2, wherein (a) satisfies  $0.3 < a < 0.55$ .

4. (currently amended): A low core loss magnetic alloy with a high saturation magnetic  
flux density as set forth in claim 1-~~or~~2, wherein a part of M' are substituted by at least one  
element selected from Ni, Cr, Mn, Sn, Zn, In, Ag, Sc, platinum group elements, Mg, Ca, Sr, Y,  
rare earth elements, N, O, and S.

5. (currently amended): A low core loss magnetic alloy with a high saturation magnetic  
flux density as set forth in claim 1-~~or~~2, wherein a part of X' are substituted by at least one  
element selected from C, Ge, Ga, Al, and P.

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6. (currently amended): A low core loss magnetic alloy with a high saturation magnetic flux density as set forth in claim 1-~~or~~2, wherein the alloys are subjected to a heat treatment in a magnetic field, and a squareness ratio  $B_r/B_s$  being not more than 10%.

7. (currently amended): A low core loss magnetic alloy with a high saturation magnetic flux density as set forth in claim 1-~~or~~2, wherein a part of an alloy structure comprises amorphous phases.

8. (currently amended): A low core loss magnetic alloy with a high saturation magnetic flux density as set forth in claim 1-~~or~~2, wherein at least a part of crystal grains having grain size of not larger than 50 nm has a body centered cubic structure.

9. (currently amended): A low core loss magnetic alloy with a high saturation magnetic flux density as set forth in claim 1-~~or~~2, wherein ordered lattices exist in an alloy structure.

10. (currently amended): Magnetic parts being constituted by the low core loss magnetic alloy with the high saturation magnetic flux density as set forth in claim 1-~~or~~2.

11. (new): A low core loss magnetic alloy with a high saturation magnetic flux density as set forth in claim 2, wherein (a) satisfies  $0.3 \leq a \leq 0.55$ .

12. (new): A low core loss magnetic alloy with a high saturation magnetic flux density as set forth in claim 2, wherein a part of M' are substituted by at least one element selected from Ni, Cr, Mn, Sn, Zn, In, Ag, Sc, platinum group elements, Mg, Ca, Sr, Y, rare earth elements, N, O, and S.

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13. (new): A low core loss magnetic alloy with a high saturation magnetic flux density as set forth in claim 2, wherein a part of X' are substituted by at least one element selected from C, Ge, Ga, Al, and P.

14. (new): A low core loss magnetic alloy with a high saturation magnetic flux density as set forth in claim 2, wherein the alloys are subjected to a heat treatment in a magnetic field, and a squareness ratio  $B_r/B_s^{-1}$  being not more than 10%.

15. (new): A low core loss magnetic alloy with a high saturation magnetic flux density as set forth in claim 2, wherein a part of an alloy structure comprises amorphous phases.

16. (new): A low core loss magnetic alloy with a high saturation magnetic flux density as set forth in claim 2, wherein at least a part of crystal grains having grain size of not larger than 50 nm has a body centered cubic structure.

17. (new): A low core loss magnetic alloy with a high saturation magnetic flux density as set forth in claim 2, wherein ordered lattices exist in an alloy structure.

18. (new): Magnetic parts being constituted by the low core loss magnetic alloy with the high saturation magnetic flux density as set forth in claim 2.